

The present invention discloses a method for locating a mobile station, comprising the steps of using fixed transmitting stations (**BS1, BS2, BS3**) for locating a target mobile station (**MS1**) by transmitting a measurement signal from each fixed transmitting station to said mobile station, using a relay station (**MSN1 - MSN5**) which is adapted to receive said measurement signal from the corresponding fixed transmitting station and to forward said signal to said target mobile station (**MS1**), in case a direct transmission from one or more of said fixed transmitting stations (**BS1, BS2, BS3**) is not available, and determining the distance between said target mobile station (**MS1**) to the fixed transmitting stations and/or the relay stations on the basis of said measurement signal, and locating the position of said target mobile station on the basis of the determined distances. By the this method, it is possible to locate a mobile station even if there is no a direct connection via air to neighbouring base stations.

(Fig. 2)